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4. Quadrilaterals

(2) Draw a quadrilateral whose diagonals have equal lengths of 8 cm that bisect each other, and intersect at an angle of

i) 30°

Construction :

i) Draw a line segment AC = 8 cm and mark its mid point M (AM = MC = 4 cm)

ii) At M draw a line making an angle 30°

iii) With M as centre and radius = 4 cm draw arcs to locate points B and D

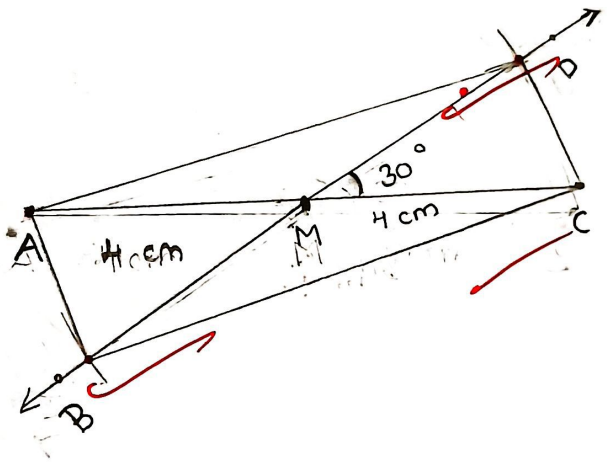
iv) Join AB, BC, CD, DA

v) ABCD is the required quadrilateral.

given :

Length of diagonal = 8 cm

(right side page)



ii) 40°

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Construction :

i) Draw a linesegment AC = 8 cm and mark its midpoint M (AM = MC = 4 cm)

ii) At M draw a line marking an angle 40°.

iii) With M as centre and radius = 4 cm draw arcs to locate points B and D

iv) Join AB, BC, CD, DA

v) ABCD is the required quadrilateral.

given :

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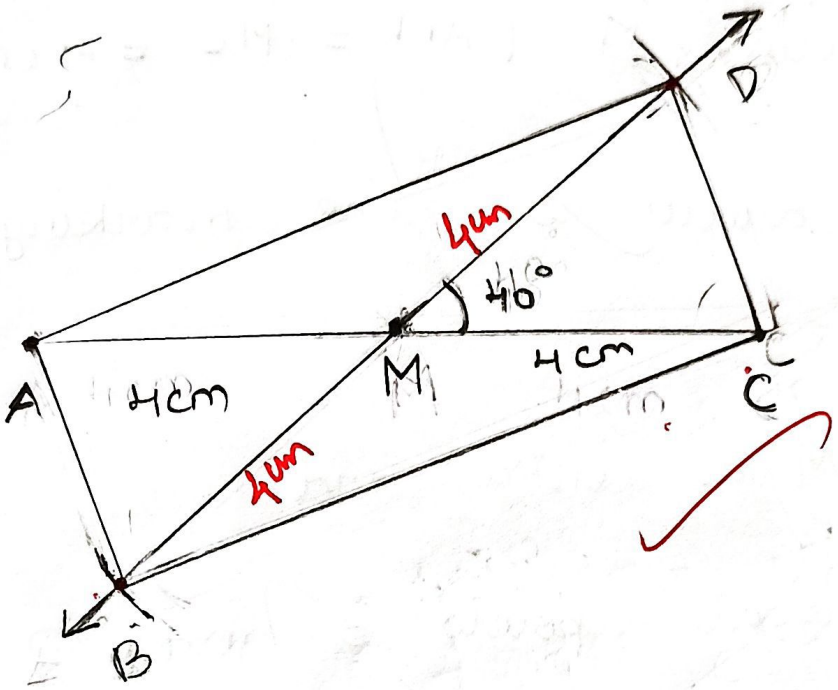
Length of the diagonal = 8 cm



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iii) Angle = 90°

Diagonal = 8 cm

Construction :

i) Draw a line segment = 8 cm and mark its midpoint M (AM = MC = 4 cm)

ii) At M draw a line making an angle 90°.

iii) With M as centre and radius = 4cm draw arcs to locate points B and D

iv) Join AB, BC, CD, DA.

v) ABCD is the required quadrilateral.

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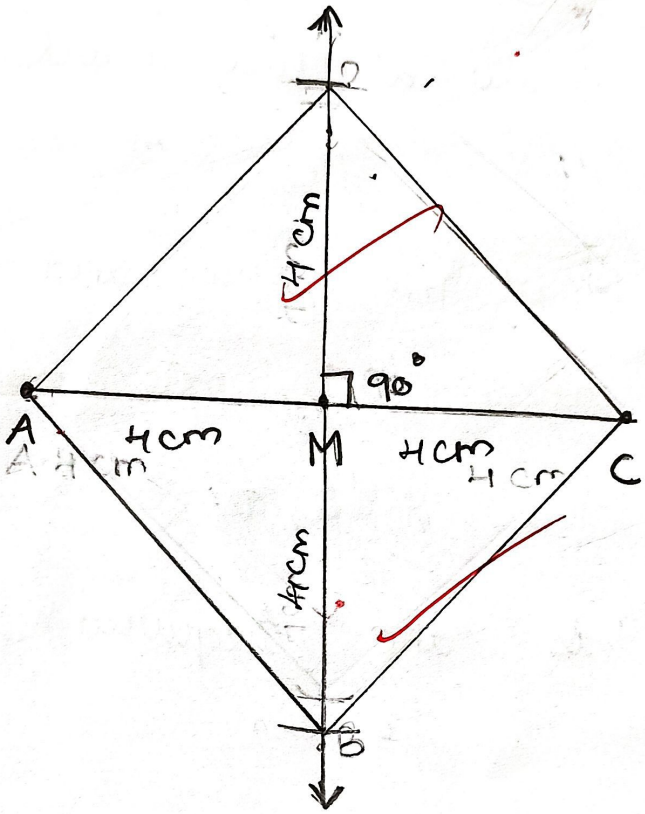

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Angle = 140°

Diagonal = 8 cm

Construction :

i) Draw a line segment = 8 cm and mark its midpoint M = (AM = MC = 4 cm)

ii) At M draw a line marking an angle 140°

iii) With M at the centre and radius 4 cm draw arcs to locate points B and D

iv) Join AB, BC, CD, DA

v) ABCD is the required quadrilateral.

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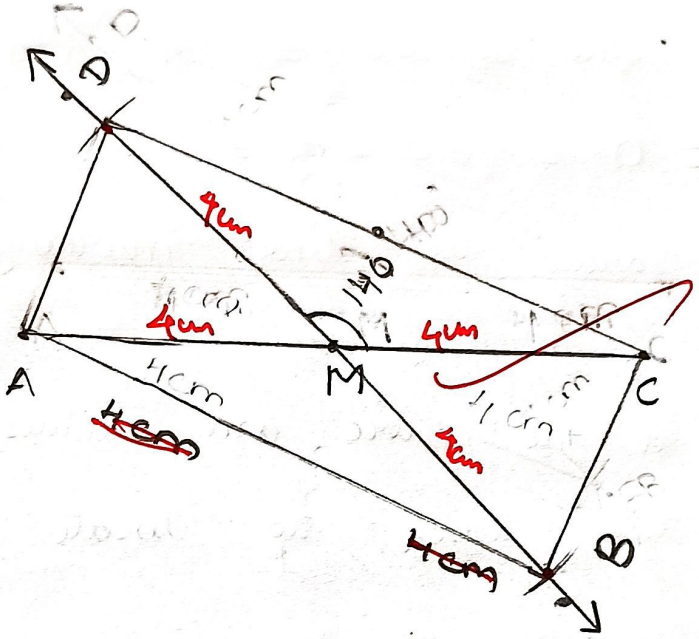

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Figure it out : (page no: 102)

② Using the diagonal properties, construct a parallelogram whose diagonals are of lengths 7cm and 5 cm, and intersect at an angle of 140°.

Construction :

i) Draw a line segment AC = 7cm and mark its midpoint = O

ii) At O draw a line marking an angle 140°.

iii) With O at the centre and radius 2.5 cm draw two arcs to locate points B and D

iv) Join AB, BC, CD, DA

v) ABCD is the required parallelogram.

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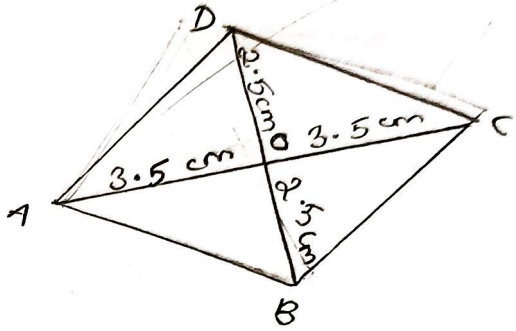
Rough Diagram

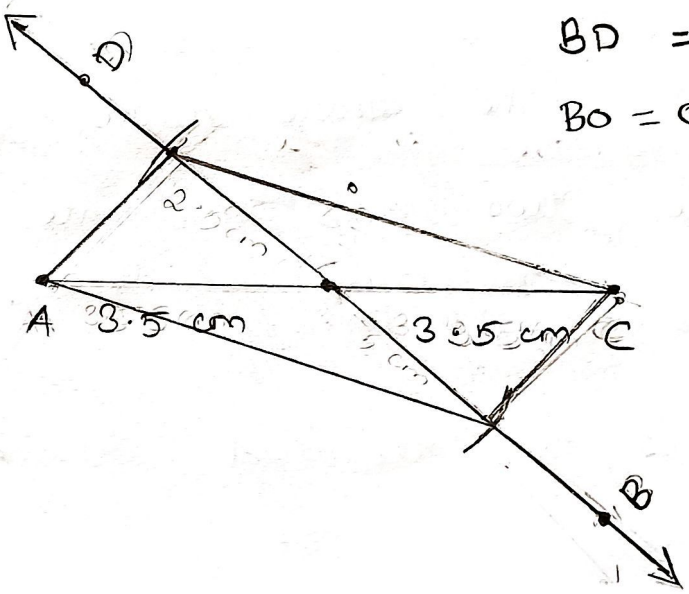


AC = 7 cm

AO = OC = $\frac{7}{2}$ = 3.5 cm

BD = 5 cm

BO = OD = $\frac{5}{2}$ = 2.5 cm



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③. Using the diagonal properties, construct a rhombus whose diagonals are of lengths 4 and 5 cm.

Construction:

i) Draw a line segment AC = 4cm and mark its midpoint = O

ii) At O draw a line marking an angle 90°

iii) With O at the centre draw, a radius 2.5 cm and draw two arcs to locate points.

iv) Join AB, BC, CD, DA

v) ABCD is the required rhombus

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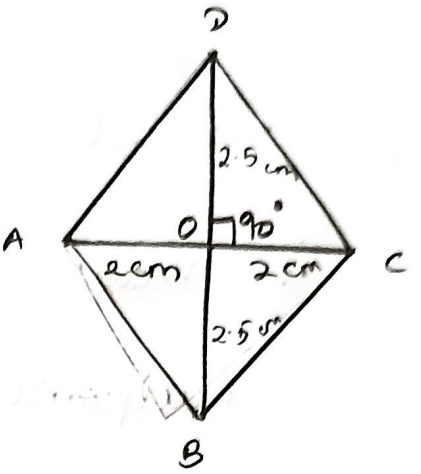
Rough Diagram

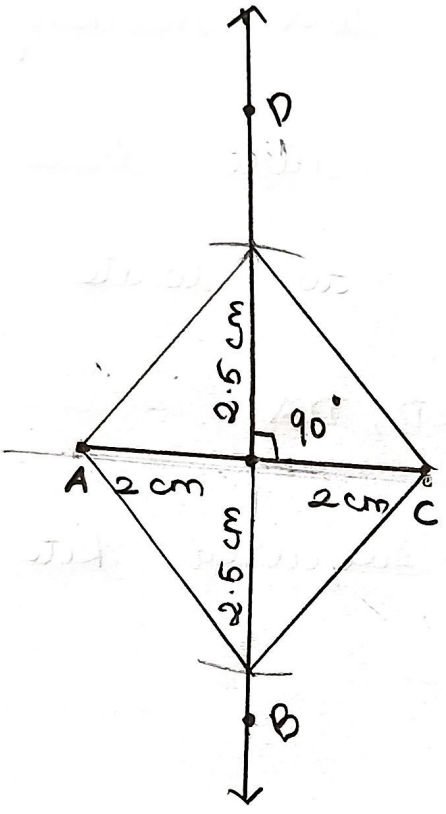


AC = 4 cm

AO = OC = 2cm

BD = 5 cm

DO = OB = 2.5 cm



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(2). Construct a kite whose diagonals are of lengths 6 cm and 8 cm.

Construction :

i) Draw a line segment AC = 6 cm and mark its midpoint O.

ii) At O draw a line marking an angle 90°.

iii) With O at the centre draw a radius 4 cm and two arcs to locate point

iv) Join AB, BC, CD, DA

v) ABCD is the required kite.

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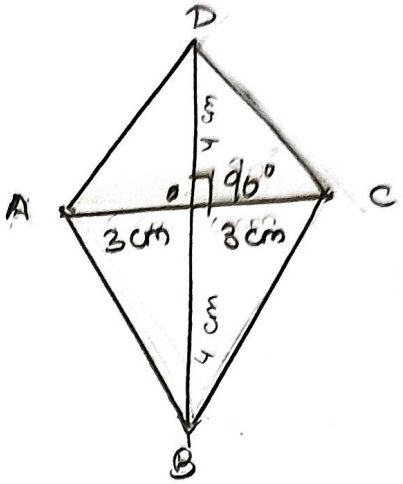
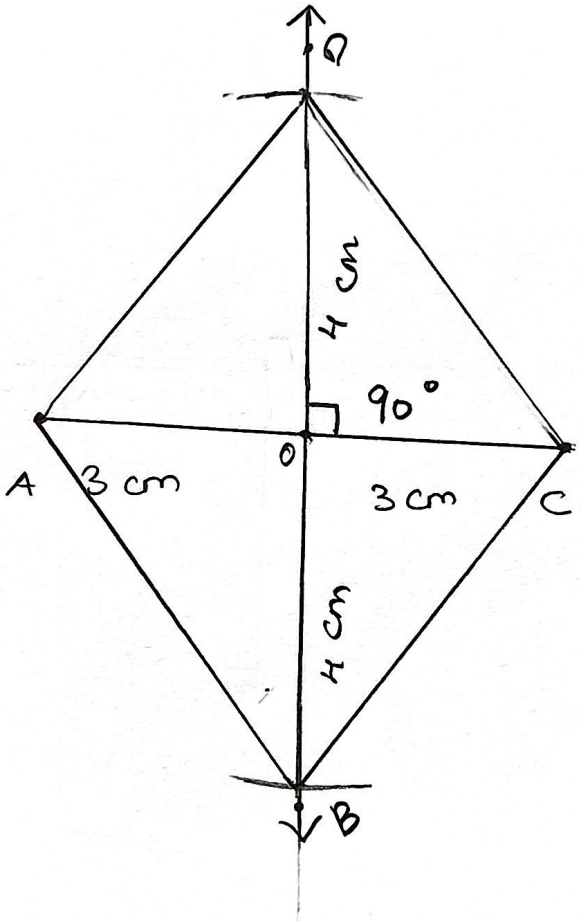
Rough Diagram





AC = 6 cm

AO = OC = 3 cm

BD = 8 cm

DO = OB = 4 cm

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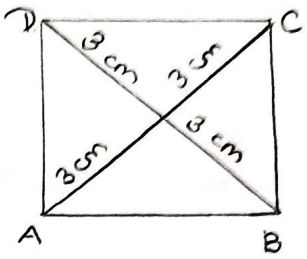
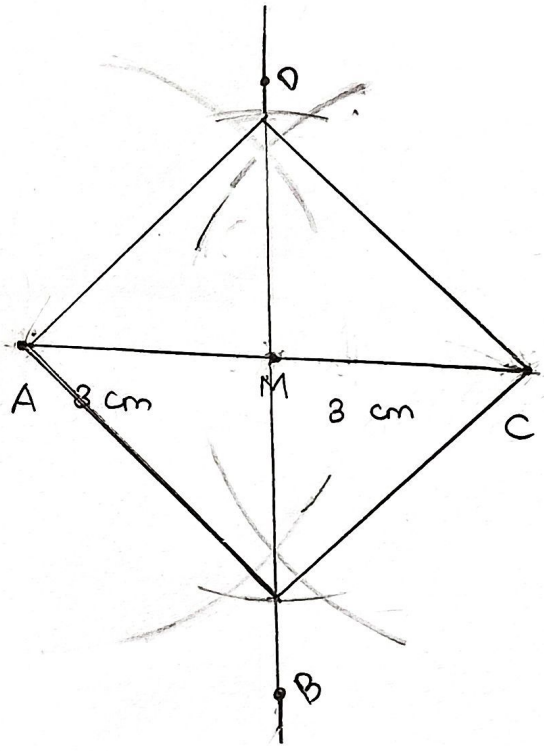
Rough Diagram





⑥ Construct a square with diagonal 6 cm without using a protractor.

Construc

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